

## REVISION OF NEARCTIC MYCETOPHAGIDAE (COLEOPTERA)

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### ABSTRACT

The family Mycetophagidae is composed, in the Nearctic region, of 26 species in the following 5 genera (numbers of species in parentheses): *Mycetophagus* (15), *Litargus* (6), *Berginus* (3), *Typhaea* (1), and *Thrimolus* (1). Keys are provided to all taxonomic units, several species are synonymized, and one new species of *Mycetophagus* is described.

### INTRODUCTION

Since there is so much confusion as to the limits of both genera and species of the Nearctic Mycetophagidae, keys are here presented, a number of names are placed in synonymy, and one new species is described. Two genera, *Lendomus* Casey and *Myrmechixenis* Chev., included by Arnett (1968), are here removed, since they have been found to belong to other families. For a discussion of *Tilargus* Casey, as recognized by Sharp (1902), see under *Litargus*.

### Key to Genera

1. Head across eyes nearly as wide as pronotum; pronotum as wide at anterior as at posterior angles; antennal club two-segmented ..... *Berginus*
- 1'. Head across eyes much narrower than pronotum; pronotum narrowed anteriorly; antennae without a club or if club is present it is composed of 3 or more segments ..... 2
- 2(1'). Basal angles of pronotum well defined; length more than 1.4mm ..... 3
- 2'. Basal angles of pronotum broadly rounded; length less than 1.3mm ..... *Thrimolus*
- 3(2). Length more than 3.1mm; eyes transverse; sinuate in front; epipleural fold horizontal and flat ..... *Mycetophagus*
- 3'. Length 3.1mm or less (except 4.5mm in *Litargus grandis*); eyes more rounded, not sinuate in front; antennal club three-segmented ..... 4

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<sup>2</sup>The numbers used for distributions represent major regions of North America adopted by the North American Beetle Fauna Project (1—Northeast; 2—Southeast; 3—Southwest; 4—Northwest; 5—North Central). The two-letter state abbreviations are from the same project (modified from those of the U. S. Post Office; note that NK indicates Nebraska and NB New Brunswick).—(J. F. Lawrence)

- 4(3'). Epipleural fold concave and descending except in *didesmus* and some *sexpunctatus*; elytra with pale markings; length 1.5-2.8mm (4.5mm in *Litargus grandis*) ..... *Litargus*  
 4'. Epipleural fold horizontal and flat; elytra unicolorous; length 2.5-3.1mm ..... *Typhaea*

*Mycetophagus* Hellwig

*Mycetophagus* Hellwig, 1792, in Schneider Neuest Mag. Ent., 1:394.

TYPE OF GENUS: *Mycetophagus quadrimaculatus* Hellwig = *quadripustulatus* Linnaeus.

Except for the Holarctic *Mycetophagus quadriguttatus* and European *multipunctatus* there is no correlation between the subgenera of *Mycetophagus* in Europe and North America. According to a recent review by Vogt (1967), 10 European *Mycetophagus* are arranged in the following subgenera: *Ulolendus* Reitter (*atomarius* Fabricius, *decempunctatus* Fabricius, *piceus* Fabricius, *salicis* Brisout), subg. *Mycetophagus* (*quadripustulatus* (Linnaeus), *ater* (Reitter)), subg. *Mycetoxides* Motschulsky (*fulvicollis* Fabricius), subg. *Ilendus* Casey (*multipunctatus* Fabricius), subg. *Parilendus* Casey (*quadriguttatus* Müller), subg. *Philomyces* Ganglbauer (*populi* Fabricius). I have examined the above species in the American and British Museums of Natural History.

According to the subgenera proposed by Casey (1900) for the Nearctic *Mycetophagus*, the European species would be arranged as follows: subg. *Mycetophagus* (*ater*, *atomarius*, *decempunctatus*, *piceus*, *quadripunctatus*, and *salicis*); subg. *Ilendus* (*fulvicollis*, *multipunctatus*); subg. *Parilendus* (*quadriguttatus*, *populi*). Therefore Casey's subgenera are not entirely natural and are used here chiefly for convenience in keying to species. Also *Mycetophagus pluriguttatus* LeConte is anomalous in having very different genitalia.

**Key to Subgenera of Nearctic *Mycetophagus***

1. Antennae gradually incrassate toward apex, with 3, 4, or 5 segments before the terminal segment more or less distinctly subserrate (Fig. 36-39) ..... *Mycetophagus* s. str.  
 1'. Antennae forming a 3, 4, or 5-segmented club which may be strongly or very feebly differentiated, bilaterally symmetrical (Fig. 40-49) ..... 2  
 2(1'). Antennae with a very feebly differentiated subparallel 5-segmented club (Fig. 40-42) ..... *Ilendus* Casey  
 2'. Antennae with a 3 or 4-segmented club ..... 3  
 3(2'). Antennae with feeble 4-segmented club (Fig. 44) ..... *Parilendus* Casey  
 3'. Antennae with feebly to distinctly developed 3-segmented club (Fig. 45-49) ..... *Gratusus* Casey

Subgenus *Mycetophagus* s. str.

1. Apical antennal segment longer than 2 preceding combined, antennal segments 7-10 subserrate; length 4.6-6.3mm .... *punctatus* Say  
 1'. Apical antennal segment usually shorter but may be as long as the 2 preceding combined; length 3.0-4.6mm ..... 2

- 2(1'). Elytra with pale markings involving the suture from basal 0.2 to 0.6; apical antennal segments 7-10 feebly subserrate, more distinctly so in the male (Fig. 37) ..... *flexuosus* Say
- 2'. Elytra with pale markings not reaching the suture ..... 3
- 3(2'). Each elytron with a large pale humeral spot and a smaller transverse pale spot at apical third, not attaining the suture or margin; antennal segments 8-10 feebly subserrate; length 3.5-4.9mm; western North America east to Utah ..... *californicus* Horn
- 3'. Each elytron with very variable pale markings but not as above (Fig. 9-16); antennal segments 5-10 distinctly subserrate (Fig. 39); eastern North America west to Texas, Oklahoma, Nebraska, and Manitoba ..... *serrulatus* (Casey)

#### Subgenus *Ilendus* Casey

1. Elytra conjointly at least twice as long as wide; pronotal disc deeply punctate, nearly all punctures of uniform size ..... 2
- 1'. Elytra conjointly distinctly less than twice as long as wide; pronotal disc less deeply punctate, punctures may be of various sizes ..... 3
- 2(1). Length 4.3-4.6mm; color above piceous to black; elytra with pale markings, intervals with rows of short and a row of longer pubescence; median lobe in profile apparently thicker (Fig. 60) ..... *melsheimeri* LeConte
- 2'. Length 4.7mm; color uniformly black above; pubescence short, sparse, and not arranged obviously in rows; median lobe in profile apparently thinner (Fig. 61)..... *obscurus* LeConte
- 3(1'). Color above uniformly brown to black; punctures on pronotal disc of 2 intermixed sizes separated by less than their diameters; averaging smaller, 3.2-4.5mm (Fig. 41) ..... *pini* Ziegler
- 3'. Color above brown to black; elytra with pale markings; punctures not as above; averaging larger, 3.2-4.9mm ..... 4
- 4(3'). Punctures on pronotal disc of nearly uniform size, separated by 2 to 3 times their diameters; lateral margins of prothorax not serrulate; each elytron with a large oblique basal pale spot beginning at humerus and a large transverse pale spot at apical 0.66, occasionally the 2 spots join along the suture (Fig. 18, 19, 42); length 3.9-4.9mm ..... *distinctus* Hatch
- 4'. Punctures on pronotal disc of various sizes separated on average by less than their diameters, occasionally with finer punctures which are separated by at least their diameters; lateral margins of prothorax serrulate; pale markings of elytra variable and complex (Fig. 20-22, 43); length 3.2-4.7mm ..... *pluripunctatus* LeConte

#### Subgenus *Parilendus* Casey

- Strongly convex; dark brown; each elytron with a large pale humeral spot, a transverse pale spot at 0.6, a small lateral spot at middle, and often a pale round spot near suture at basal 0.25 (Figs. 23, 44); each elytral interval with a row of longer hairs; length 3.3-4mm ..... *quadriguttatus* P. Müller

Subgenus *Gratusus* Casey

1. Each elytron with about 11 rows of punctures; larger, length 4.2-5.5mm ..... 2
- 1'. Each elytron without rows of punctures; smaller, length 3.3-4.2mm; about 8 pale spots on each elytron with 3 of the spots centered in a circle of 6 spots on the 2 elytra (Fig. 24, 45).....  
..... *confusus* Horn
- 2(1). Pair of basal pronotal foveae very obsolete ..... 3
- 2'. Pair of basal pronotal foveae deep and elongate, nearer the sides than center and nearer the base than length of scutellum. Color above may be uniformly rich dark brown or the pronotum may be rufous to dark brown and the elytra blackish; elytra may be immaculate or with yellow markings as in Fig. 25-31; punctures on pronotum may be nearly of uniform size or somewhat variable; male protibia with blunt tooth at middle of inner edge; length 4.3-5.8mm.....  
..... *pluriguttatus* LeConte
- 3(2). Pronotal lateral margins serrulate; punctures on pronotal disc deep and coarse, the largest punctures at least twice as large as eye facets; punctures on prosternum and hypomeron dense, deep and coarse, about 3 times eye facets ..... 4
- 3'. Pronotal lateral margins not serrulate; punctures on pronotal disc very fine and variable in size, the largest punctures about same size as eye facets; punctures on prosternum and hypomeron very dense and fine, about same size as eye facets; first ventral segment of male with brush of hairs; color above dark brown to black, each elytron with 5-7 small yellow or grayish spots (Fig. 32, 33, 47); length 4.2-5.5mm.....  
..... *tenuifasciatus* Horn
- 4(3). First ventral segment of male without a brush of hairs, color above black, each elytron with large oblique y-shaped yellowish spot not including the humerus, a zigzag transverse yellowish spot at apical third, a yellowish spot near apex, and a small yellowish spot at side at middle; length 4.9-5.3mm (Fig. 34, 48)..... *obsoletus* (Melsheimer)
- 4'. First ventral segment of male with broad brush of yellow hairs; color above dark brown, each elytron with small obscure pale yellow or grayish markings formed by the pubescence, the elytra beneath the pale pubescence being at most only slightly more pale; length 4.2-5.2mm (Fig. 35, 49)....  
..... *praetermissus* n. sp.

*Mycetophagus punctatus* Say

Fig. 1-3, 36

*Mycetophagus punctatus* Say, 1826, Proc. Acad. Nat. Sci. Philadelphia 5:260.**Type:** from eastern United States, presumably Pennsylvania since J. F. Melsheimer was the collector, lost.**Distribution:** 1(QU,ON,NH,VT,NY,CT,NJ,PA,MD,DC,MI,IL,WI); 2(NC,TN,GA,LA); 3(TX,CA); 4(ID); 5(KS,MO,MB).

*Mycetophagus flexuosus* Say

Fig. 4-6, 37

*Mycetophagus flexuosus* Say, 1826, Proc. Acad. Nat. Sci. Philadelphia 5:260.**Type:** from eastern United States, lost.**Distribution:** 1(QU,ON,ME,NH,VT,MA,NY,NJ,PA,DC,MD,OH,IL,MI,WI); 2(VA,WV,NC,KY,GA,FL,LA,AR); 3(TX); 5(MO,IA,NK,ND,MB,MT).*Mycetophagus californicus* Horn

Fig. 7, 8, 38

*Mycetophagus californicus* Horn, 1878, Proc. Am. Philos. Soc. 17:603-4.**Type:** lectotype from Lake Tahoe, California, no. 3219 [MCZ]. Examined. A syntype with same data in LeConte collection [MCZ].*Mycetophagus provensis* Casey, 1916, Mem. Coleoptera 7:175. **New Synonymy.****Type:** female from Provo, Utah, no. 37495 [USNM]. Examined.

Another teneral female [CAS], evidently collected with the type, certainly confirms the above synonymy.

**Distribution:** 3(CA); 4(UT,NV,ID,OR,WA,BC); 5(WY).*Mycetophagus serrulatus* (Casey)

Fig. 9-16, 39

*Tritoma serrulata* Casey, 1900, Journ. New York Ent. Soc. 8:132.**Type:** male from Virginia, no. 37493 [USNM]. Examined.*Tritoma picta* Casey, 1900, J. New York Ent. Soc. 8:132. **New Synonymy.****Type:** female and female paratype from New York, no. 34490 [USNM]. Examined.*Tritoma subdepressa* Casey, 1900, J. New York Ent. Soc. 8:132. **New Synonymy.****Type:** male and male paratype presumably from Indiana, no. 37491 [USNM]. Examined.*Mycetophagus quadralius* Casey, 1916, Mem. Coleoptera 7:172. **New Synonymy.****Type:** male from Southern Pines, North Carolina and 2 female paratypes from Asheville, North Carolina, no. 37494 [USNM]. Examined.*Mycetophagus tribalteatus* Casey, 1916, Mem. Coleoptera 7:173. **New Synonymy.****Type:** female from Southern Pines, North Carolina, no. 37492 [USNM]. Examined.**Distribution:** 1(QU,ON,VT,NY,OH,IN,IL,WI); 2(VA,WV,NC,TN,GA,FL,AR, MS, LA); 3(TX,OK); 5(NK,MB).

Four of Casey's names are here suppressed because the variations do not appear to segregate in any logical manner. Even Casey's diagnosis of *serrulatus* is not valid since he separates that species by its serrulate pronotal margins. But this character appears in 1 paratype of *quadralius*, is very evident from beneath in the type of *pictus*, and turns up in other specimens which disagree with *serrulatus* in other characters. Casey separates *subdepressus* by stating that the 3rd and 4th antennal segments are equal. But in the type the 4th segment is shorter than the 3rd. Also this species is defined as depressed but this condition is due to being gently squashed, since the apices of the

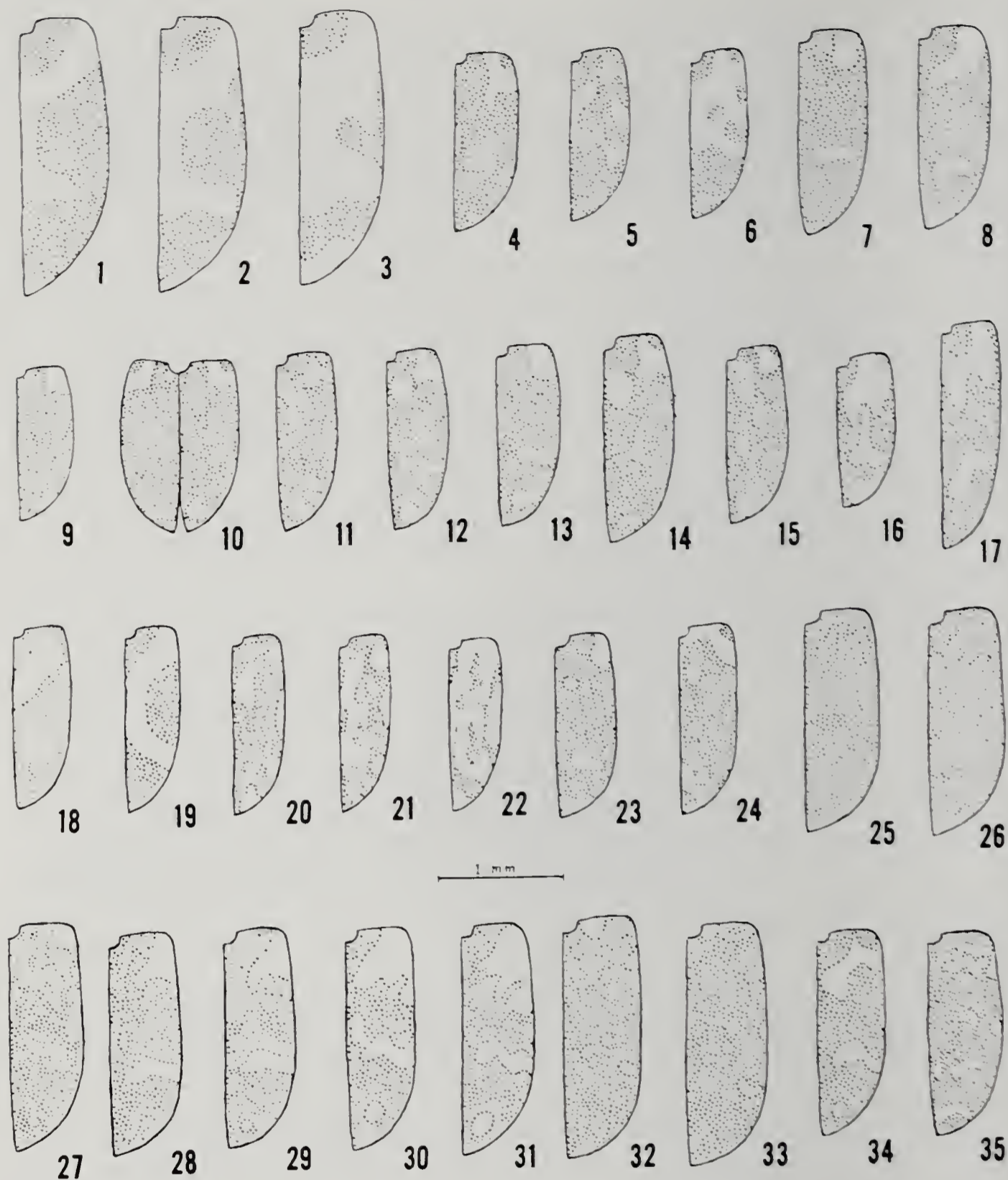


Fig. 1-35. Nearctic *Mycetophagus*, right elytron: 1-3. *M. punctatus*. 4-6. *M. flexuosus*. 7-8. *M. californicus*. 9-16. *M. serrulatus* (9, holotype of *quadralius*; 10, paratype of *quadralius*; 11, holotype of *subdepressus*; 12, paratype of *subdepressus*; 13, holotype of *tribalteatus*; 14, holotype of *pictus*; 15, holotype of *serrulatus*; 16, example from Dallas, Georgia). 17. *M. melshimeri*. 18-19. *M. distinctus*. 20-22. *M. pluripunctatus*. 23. *M. quadriguttatus*. 24. *M. confusus*. 25-31. *M. pluriguttatus* (25-27, variation "franciscanus"; 28-31, typical *pluriguttatus*). 32-33. *M. tenuifasciatus*. 34. *M. obsoletus*. 35. *M. praetermissus* (paratype).

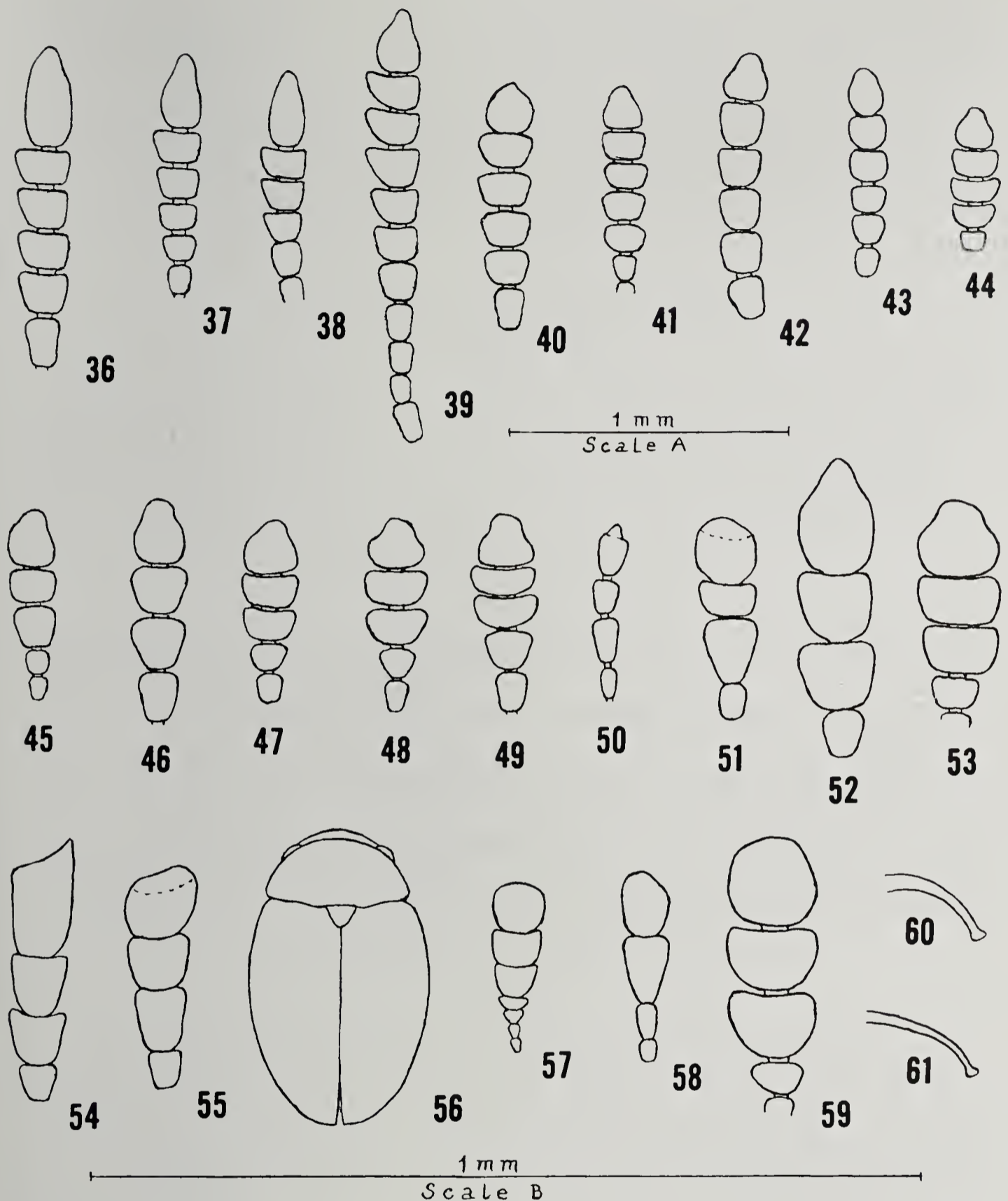


Fig. 36-49. Nearctic *Mycetophagus*, apical antennal segments: 36. *M. punctatus*, male. 37. *M. flexuosus*, male. 38. *M. californicus*, female. 39. *M. serrulatus*. 40. *M. melsheimeri*, male. 41. *M. pini*, female. 42. *M. distinctus*, male. 43. *M. pluripunctatus*, female. 44. *M. quadriguttatus*, female. 45. *M. confusus*, female. 46. *M. pluriguttatus*, male. 47. *M. tenuifasciatus*, female. 48. *M. obsoletus*, female. 49. *M. praetermissus*, male (holotype).

Fig. 50-55. Nearctic *Litargus*, apical antennal segments: 50. *L. grandis*, male. 51. *L. tetraspilatus*, male. 52. *L. sexpunctatus*, female. 53. *L. didesmus*, female. 54. *L. balteatus*, female. 55. *L. nebulosus*, male. Fig. 56. *Thrimolus minutus*. Fig. 57. *T. minutus*, apical antennal segments. Fig. 58. *Berginus pumilus*, apical antennal segments. Fig. 59. *Typhaea stercorea*, apical antennal segments. Fig. 60. *Mycetophagus melsheimeri*, median lobe, lateral view. Fig. 61. *M. obscurus*, median lobe, lateral view. Fig. 36-50, 56 enlarged to scale A. Fig. 51-55, 57-59 enlarged to scale B. Fig. 60, 61 not to scale.

elytra are turned outward in both the type and paratype. Casey also separates his species on the basis of elytral markings. The complete range of variation of elytral markings covered by Casey's types (Fig. 9-15) are shown by a series collected by P. W. Fattig, 19-VII-1942 at Dallas, Georgia [USNM]. From the same series a further extreme of pale markings is shown by Fig. 16. Fig. 9 (*quadratus*) and 14 (*pictus*) apparently represent extremes of allometric growth found also among other species.

*Mycetophagus melsheimeri* LeConte  
Fig. 17, 40, 60

*Mycetophagus melsheimeri* LeConte, 1856, Proc. Acad. Nat. Sci. Philadelphia 8:13.

**Type:** male from Pennsylvania, no. 6846 in LeConte coll. [MCZ]. Examined.

**Distribution:** 1(MD,PA); 2(VA,SC,GA,AL,MS,LA); 3(TX); 5(IA).

*Mycetophagus obscurus* LeConte  
Fig. 61

*Mycetophagus obscurus* LeConte, 1856, Proc. Acad. Nat. Sci. Philadelphia 8:13.

**Type:** male from Georgia, no. 6847, in the LeConte Coll. [MCZ]. Examined.

**Distribution:** known only from the type and 1 specimen without locality label from Levette in the Casey coll. [USNM].

LeConte (1878:604) may have been correct in making *obscurus* a synonym of *melsheimeri*. But in addition to the key characters *obscurus* seems to differ in being larger and more coarsely punctate.

*Mycetophagus pini* Ziegler  
Fig. 41

*Mycetophagus pini* Ziegler, 1845, Proc. Acad. Nat. Sci. Philadelphia 2:270.

**Type:** specimen with orange disc = southern states and name label in LeConte coll. [MCZ]. Examined. Although not fully colored it is here designated lectotype.

**Distribution:** 1(NJ,DC,MD,IN); 2(NC,SC,GA,AL,FL,MS,LA,AR); 3(TX).

*Mycetophagus distinctus* Hatch  
Fig. 18, 19, 42

*Mycetophagus distinctus* Hatch, 1962, Beetles Pacific Northwest 3:227.

**Type:** from Seattle, Washington. Paratypes from Idaho, Oregon, and British Columbia, all at the University of Washington.

**Distribution:** 4 (ID,OR,WA,BC); 5(WY,MB,SA,AB).

*Mycetophagus pluripunctatus* LeConte  
Fig. 20-22, 43

*Mycetophagus pluripunctatus* LeConte, 1856, Proc. Acad. Nat. Sci. Philadelphia 8:13.



**Type:** male with orange disc = southern states, no. 6848 in LeConte coll. [MCZ]. Examined.

**Distribution:** 1(QU,ON,NH,VT,MA,NY,NJ,DC,MD,OH,IN,IL,MI); 2(VA,WV,NC,LA,AR); 3(TX,OK); 4(BC); 5(MO,KS,IA).

This is a particularly variable species; some specimens from Quebec and Michigan in particular have unusually fine and sparse punctation above and on the hypomeron. Also the prothorax may be less convex and the posterior pronotal angles more prominent.

*Mycetophagus quadriguttatus* P. Müller

Fig. 23, 44

*Mycetophagus quadriguttatus* P. Müller, 1821, in Germar, Mag. Zool. 4:198.

*Mycetophagus pubescens* Stephens, 1830, Illustr. Brit. Ent. Mand. 3:87.

*Mycetophagus variegatus* Sahlberg, 1837, Ins. Fenn. 2:168.

*Mycetophagus bimaculatus* Melsheimer, 1844, Proc. Acad. Nat. Sci. Philadelphia 2:114. **New Synonymy.**

**Type:** 2 syntypes on 1 pin with name label and asterisk in Melsheimer coll. [MCZ].

*Mycetophagus bipustulatus* Melsheimer, 1844, Proc. Acad. Nat. Sci. Philadelphia 2:114. **New Synonymy.**

**Type:** with pink disc = middle states and name label in LeConte coll. [MCZ] is here designated lectotype.

*Mycetophagus bisignatus* Melsheimer, 1853, Cat. Descr. Coleopt. U. S.:47. Incorrect subsequent spelling.

**Type:** specimen with name label and asterisk in Melsheimer coll. [MCZ] is here designated lectotype.

**Distribution:** Holarctic. Nearctic: 1(NB,QU,ON,NH,VT,MA,NY,PA,IL,MI,WI); 2(NC,AR); 3(TX,CA); 4(ID,OR,BC); 5(IA,MB,NK,WY,SA,AB).

*Mycetophagus confusus* Horn

Fig. 24, 45

*Mycetophagus confusus* Horn, 1878, Proc. Amer. Phil. Soc. 17:605.

**Type:** from Colorado, no. 3220, in Horn coll. [MCZ]. Examined.

*Mycetophagus arizonensis* Schaeffer, 1910, J. New York Ent. Soc. 18:211-212.

**New Synonymy.**

**Type:** from Huachuca Mts., Arizona, not examined. One evident paratype given by Schaeffer [USNM]. Examined.

**Distribution:** 3(NM,AZ); 5(CO).

This species is aptly named, since it was unknown to Casey who placed it in *Parilendus*. Thus Schaeffer, to whom it was also unknown, did not realize that *confusus* belonged in *Gratusus*.

*Mycetophagus pluriguttatus* LeConte

Fig. 25-31, 46

*Mycetophagus pluriguttatus* LeConte, 1856, Proc. Acad. Nat. Sci. Philadelphia 8:13.

**Type:** from San Jose, California, in LeConte coll. [MCZ]. Examined.  
*Mycetophagus pluriguttatus franciscanus* Van Dyke, 1939, Pan-Pacific Ent. 15:17-18. **New Synonymy.**

**Type:** from hills behind Oakland, California, no. 4768 [CAS]. Paratype with same data examined.

**Distribution:** 3(CA); 4(OR,WN,ID,BC); 5(MT).

Van Dyke (1939) states: "More typical bicolored *pluriguttatus* is generally found more inland, especially in the Sierra Nevada Mountains. Once or twice I have found the coastal subspecies with more or less well defined subapical elytral light markings but never with pattern approaching that of the typical form." After examining a large series from the California Academy of Sciences and University of British Columbia, I find the above statement not to hold true. I have figured 7 variations in elytral pattern, all chosen from coastal examples. Fig. 25-27 represent "*franciscanus*" and Fig. 28-31 represent "*pluriguttatus*." Other characters intergrade in a random manner, and the elaborately developed male genitalia appear identical throughout the series.

*Mycetophagus tenuifasciatus* Horn

Fig. 32, 33, 47

*Mycetophagus tenuifasciatus* Horn, 1878, Proc. Amer. Phil. Soc. 17:604.

**Type:** male from Colorado, lectotype no. 3221, in Horn coll. [MCZ]. Examined.

*Mycetophagus notatulus* Casey, 1900, J. New York Ent. Soc. 8:133-134. **New Synonymy.**

**Type:** female from British Columbia, no. 37496 [USNM]. Examined.

**Distribution:** 1(QU,ON,NH,MI); 4(BC); 5(CO,AB).

For years I separated *tenuifasciatus* and *notatulus* on the basis of size (less than 4.8 or more than 5.0mm), color of elytral spots, pronotal shape, and elytral punctation, but examination of a large series from the University of British Columbia has shown that these differences are illusory.

*Mycetophagus obsoletus* (Melsheimer)

Fig. 34, 48

*Tetratoma obsoletus* Melsheimer, 1844, Proc. Acad. Nat. Sci. Philadelphia 2:113.

**Type:** female from Pennsylvania. Specimen with name label in LeConte coll. [MCZ] is here designated lectotype. Examined.

**Distribution:** 1(NY,NJ,PA,DC,MD,OH,IN); 2(VA,NC,GA,FL,AR); 3(TX,OK).

*Mycetophagus praetermissus* Parsons, **New Species**

Fig. 35, 49

Color uniformly dark brown with a tendency for the labrum and anterior part of clypeus to be paler. Covered with short, fine, brown pubescence which becomes pale, forming yellow markings laterally and anteriorly on pronotum; many small, pale markings on elytra (fig. 35); pubescence on underside tending to be paler, especially on the ventral abdominal segments.

A convex species, about as convex as *quadriguttatus* and *obsoletus*, distinctly more convex than *tenuifasciatus*. Antennal club 3-segmented (Fig. 49) but occasionally the 8th segment is enlarged so that club appears feebly 4-segmented. Vertex with coarse, nearly contiguous punctures. Pronotum with length/width as 1/1.6(1.5-1.7); lateral margins finely serrulate, strongly arcuate; hind angle forming an angle of about 110°, with a pair of vague central foveae, another vague fovea at posterior margin at middle, and the usual pair of obsolete foveae very near the posterior margin and a little nearer the hind angles than the middle. Surface of pronotum with dense, deep punctures separated by their diameters and about twice as large as eye facets, intervals densely punctulate. Elytra conjointly with width/length as 1/1.56 (1.4-1.6), with 11 rows of punctures arranged in striae, the intervals irregularly, densely, asperately punctate. When fully developed, elytral markings are as in Fig. 35, but may be reduced. The markings caused by pale yellow pubescence which may appear grayish under certain conditions. The surface beneath the pale pubescence may be somewhat more pale. Hypomeron and prosternum equally densely, coarsely punctate, the punctures separated by about their diameters and about as large as the large punctures on the pronotum. First ventral abdominal segment of male with a brush of yellow hairs as wide as width of procoxa. Length: holotype male 4.6 mm; allotype female 4.8mm; paratype male 4.2mm; 4 female female paratypes 4.6-5.2mm.

**Holotype** male, Brookline, Norfolk Co., Massachusetts, 9-IX-1895; allotype, same locality, 24-VIII-1895; both from Bowditch Collection [MCZ]. Paratypes: 2 females, Brookline, Mass., 24-VII-1891 [MCZ]; 1 female, Marquette, Marquette Co., Michigan, 29-VI [LeConte Collection, MCZ]; 1 male Eagle River, Keweenaw Co., Michigan, Hubbard and Schwarz coll. [USNM]; 1 female, Rock[away] B[each], Long Island, New York, 27-V-1916, Ernest Shoemaker [USNM].

This species appears most nearly related to *obsoletus*, but *obsoletus* has a smaller 8th antennal segment, lateral margins of prothorax less arcuate and with narrower anterior angles, surface between large punctures on pronotum and elytra more finely and sparsely punctate so that the surface appears shining, and very different elytral markings. Also, *obsoletus* lacks the male ventral brush, which is also present in *tenuifasciatus*, a species which is more depressed and more finely punctate.

### *Litargus* Erichson

*Litargus* Erichson, 1846, Naturg. Ins. Deutschl. 3:415-416.

TYPE OF GENUS: *Litargus bifasciatus* (Fabricius) = *L. connexus* (Fourcroy).

Casey (1900) proposed 5 subgenera for the few Nearctic species. Until the more than 60 exotic species are studied, these subgenera cannot be correctly applied. Moreover, there are species which do not fit Casey's subgenera. Sharp (1902) recognized *Tilargus* Casey as a distinct genus with *Litargus tetraspilotus* LeConte as genotype. It also seems premature to adopt *Tilargus*.

Key to Nearctic *Litargus*

1. Length 1.8-2.8mm ..... 2
- 1'. Length 4.5mm; color above piceus with indistinct pale spots on pronotum and 3 more or less distinct, undulate, transverse rows of pale spots on elytra; antennal club as in Fig. 50; Arizona ..... *grandis* Schaeffer
- 2(1). Each elytron with short, sparse pubescence arranged in about 22 longitudinal rows without any pubescence in between; each elytron with 2 pale spots; pronotum without a pair of foveae near base; antennal club as in Fig. 51 ..... *tetraspilotus* LeConte
- 2'. Each elytron with pubescence confusedly arranged, except that in *sexpunctatus* there are in addition 10 rows of longer pubescence; pale spots on elytra not as above ..... 3
- 3(2'). Each elytron with fine, dark pubescence and with 10 rows of longer yellow hairs (not always clearly evident); each elytron with 3 pale spots; a pair of feeble, elongate foveae on pronotum, nearer the center than sides and nearer base than length of scutellum; antennal club as in Fig. 52 ..... *sexpunctatus* (Say)
- 3'. Each elytron without any pubescence arranged in rows and with markings not as above ..... 4
- 4(3'). Epipleurae flat and horizontal; apical antennal segment broadly rounded at tip; each elytron with basal pale spot, which is joined (sometimes obscurely) near suture to a transverse pale spot beyond middle; pronotum and elytra asperately punctate; antennal club as in Fig. 53 ..... *didesmus* Say
- 4'. Epipleurae concave and descending externally; elytra with markings not as above ..... 5
- 5(4'). Antennal segment 11 as long as 9th and 10th combined; pronotum and elytra with variable pale markings; antennal club as in Fig. 54 ..... *balteatus* LeConte
- 5'. Antennal segment 11 a little longer than 10th; pronotal punctures feebly elevated and subannulate; each elytron testaceous with incomplete piceous fasciae; antennal club as in Fig. 55 ..... *nebulosus* LeConte

*Litargus grandis* Schaeffer

Fig. 50

*Litargus grandis* Schaeffer, 1910, J. New York Ent. Soc. 18:212-213.**Type:** from Huachuca Mountains, Arizona, not examined. An evident male paratype presented by Schaeffer in 1913 [USNM]. Examined.**Distribution:** known only from the type locality.*Litargus tetraspilotus* LeConte

Fig. 51

*Litargus tetraspilotus* LeConte, 1856, Proc. Acad. Nat. Sci. Philadelphia 8:14.**Type:** male from southern states, in LeConte collection [MCZ]. Examined.**Distribution:** 1(QU,ON,NH,VT,NY,MA,RI,NJ,PA,MD,OH,MI,WI); 2(VA,WV,NC,SC,TN,GA,FL,LA); 3(TX); 5(IA,MO,KS,NK).

*Litargus sexpunctatus* (Say)

Fig. 52

*Mycetophagus sexpunctatus* Say, 1826, J. Acad. Nat. Sci. Philadelphia 5:261.**Type:** from United States, lost.*Litargus 6-punctatus* var. *obsolescens* Casey, 1900, J. New York Ent. Soc. 8:135. **New Synonymy.****Type:** female from New Jersey, no. 37498 in Casey collection [USNM]. Examined.**Distribution:** 1(ON,VT,MA,NY,NJ,DC,MD,PA,OH,IN,IL,MI,WI); 2(VA,NC,TN,FL,LA,AR); 3(TX); 5(MO,NK).*Litargus didesmus* (Say)

Fig. 53

*Mycetophagus didesmus* Say, 1826, J. Acad. Nat. Sci. Philadelphia 5:261.**Type:** from United States, lost.*Litargus asperulus* Casey, 1900, J. New York Ent. Soc. 8:136. **New Synonymy.****Type:** female from Dakota, no. 37499 in Casey collection [USNM]. Examined. Two paratypes from Kansas are actually *nebulosus*.**Distribution:** 1("Canada" VT,MA,NY,NJ,DC,MD,PA,IL,WI); 2(VA,WV,KY,NC,GA,FL,MS,LA,AR); 3(TX); 5(MO,IA, "Dakota").*Litargus balteatus* LeConte

Fig. 54

*Litargus balteatus* LeConte, 1856, Proc. Acad. Nat. Sci. Philadelphia 8:14.**Type:** male from "Colorado River, California near the junction of the Gila" no. 6851 in the LeConte collection [MCZ]. Examined.*Litargus transversus* LeConte, 1856, Proc. Acad. Nat. Sci. Philadelphia 8:14. **New Synonymy.****Type:** from San Jose, California, no. 6854 in the LeConte collection [MCZ]. Examined.*Litargus infulatus* LeConte, 1856, Proc. Acad. Nat. Sci. Philadelphia 8:14.**Type:** female from Illinois in the LeConte collection [MCZ]. Examined.

Actually *balteatus* is the third name proposed on the same page, but since it has been in use for so long, it should be retained. Casey considered *transversus* a variety, since it is larger, more elongate-oval, more depressed, and generally darker in color. Zimmerman (1939) felt that it was premature to recognize *transversus*. I prefer to consider *balteatus* an unusually variable species.

**Distribution:** Cosmopolitan; 1(VT,PA,DC,MD,OH,IN,IL,WI); 2(FL,LA,AR); 3(TX,NM,AZ,CA); 4(UT); 5(KS,NK,IA); Hawaiian Islands [CAS].*Litargus nebulosus* LeConte

Fig. 55

*Litargus nebulosus* LeConte, 1856, Proc. Acad. Nat. Sci. Philadelphia 8:15.**Type:** female from Maryland, no. 6853 in LeConte collection [MCZ]. Examined.

*Litargus longulus* Casey, 1916, Memoirs Coleoptera 7:174-175. **New Synonymy.**

**Type:** from Las Cruces, New Mexico, no. 37500 in the Casey collection [USNM]. Examined.

*Litargus pallens* Casey, 1916, Memoirs Coleoptera 7:175. **New Synonymy.**

**Type:** female from the Catskill Mts., New York, no. 37501 in the Casey collection [USNM]. Examined.

The color is variable; *longulus* is unusually dark and *pallens* is a very pale teneral.

**Distribution:** 1(NY,NJ,PA,MD,DC,WI); 2(WV,TN,GA,FL); 3(TX,NM); 4(UT); 5(KS,CO,NK).

*Typhaea stercorea* (Linnaeus)

Fig. 54

*Dermestes stercorea* Linnaeus, 1758, Syst. Nat., ed. 10:357.

**Type:** from Europe, in horse dung.

*Dermestes fumata* Linnaeus, 1767, Syst. Nat., ed. 12:564. For complete synonymy, see Hetschko, 1930, Coleopt. Cat., pars. 108:19-20.

**Distribution:** Cosmopolitan. 1(ME,VT,MA,NY,NJ,DC,IN,IL); 2(SC,NC,GA,FL,AR); 3(TX,AZ,NM,CA,BJ); 4(ID,OR,WA,BC); 5(IA,MO,KS,CO,WY).

*Thrimolus* Casey

*Thrimolus* Casey, 1900, Jour. New York Ent. Soc. 8:137.

TYPE OF GENUS: *Thrimolus minutus* Casey.

*Thrimolus minutus* Casey

Fig. 56, 57

*Thrimolus minutus* Casey, 1900, J. New York Ent. Soc. 8:137-138.

**Type:** from Columbus, Texas, no. 37502 in Casey collection [USNM]. Examined.

*Thrimolus duryi* Casey, 1916, Mem. Coleoptera 7:176-177. **New Synonymy.**

**Type:** from Cincinnati, Ohio, in Casey collection [USNM]. Examined.

**Distribution:** 1(DC,PA,OH,IN); 2(FL); 3(TX).

The length of the type of *minutus* is 1.0mm, not .78mm as originally stated or .68mm as corrected under the description of *duryi*. The length of *duryi* is given as .78, whereas it is about 1.0mm. Under *duryi* is the explanation of why so many of Casey's measurements are too short. Casey stated that he was "forced to estimate dimensions by a scale and reading glass, and the apparent length and width of these very small objects depend very much upon the relative distances of the beetle, scale and eye." I cannot see the other differences mentioned by Casey. Length varies from 1.0-1.2mm.

*Berginus* Erichson

*Berginus* Erichson, 1846, Naturg. Ins. Deutschl. 3:405.

TYPE OF GENUS: *Berginus tamarisci* Wollaston.

Key to Nearctic *Berginus*

1. Pronotum with a longitudinal impression on each side. Each elytron with 5 rows (counting the sutural margin) of heavier, squamate, cinereous pubescence (often rubbed off) arising along feeble costae, the coarse punctures in rows made confused by transverse rugae..... *pumilus* LeConte
- 1'. Pronotum without a longitudinal impression on each side. Each elytron with seriatly arranged, moderately coarse punctures bearing much finer pubescence and lacking the transverse rugae ..... 2
- 2(1'). Antennae reddish brown. Bahamas, Cuba, Florida .. *bahamicus* Casey
- 2'. Antennae black. Central America to extreme southern Texas..  
..... *nigricolor* Champion

*Berginus pumilus* LeConte

Fig. 58

*Berginus pumilus* LeConte, 1863, Smiths. Misc. Coll. 167:72-73.**Type:** from Pennsylvania, in LeConte collection [MCZ].*Berginus californicus* Pierce, 1939, Bull. S. Calif. Acad. Sci.:53. **New Synonymy.****Type:** from El Segundo, California. Not examined.**Distribution:** 1(?PA); 3(CA,BJ).

Pierce separated *californicus* because LeConte stated that in *pumilus* the thorax was longer than wide, the length was 2.0mm, and the type locality Pennsylvania. None of these reasons is valid. John Lawrence kindly examined the 2 syntypes and found that the thorax is actually about as long as wide or perhaps even a little wider than long, and the length is 1.8 and 1.9mm. In a series of 67 specimens [CAS], the length varies from 1.5-1.9mm, and the prothorax of both sexes has the length/width ratio 1/1.05 (1/1.00-1/1.06). Since I know of no other eastern examples, the type locality is at least questionable. All of the many specimens examined are from Los Angeles and San Diego Counties, California, and Baja California south to Bahia Tortugas.

*Berginus bahamicus* Casey*Berginus bahamicus* Casey, 1900, J. New York Ent. Soc. 8:129.**Type:** from Eleuthera Island, Bahama Islands, in the Casey collection [USNM]. Examined.**Distribution:** Key West, Florida; Cayamas, Cuba; Long Island, Bahamas [USNM].

Although Casey describes the color as blackish, most specimens I have seen are reddish-brown (possibly teneral).

*Berginus nigricolor* Champion*Berginus nigricolor* Champion, 1913, Trans. Ent. Soc. London:117.**Type:** syntypes from Guatemala, Nicaragua, and Panama [BM] [USNM]. Not examined.**Distribution:** In addition to the types, Champion recorded a mutilated example provisionally as *nigricolor* in dead cotton bolls from Browns-

ville, Texas [USNM]. Although this record may be adventitious, *nigricolor* is so widespread as to be expected along Mexico's northern boundary. Five specimens were examined from Maria Madre Indian Village, Tres Marias Islands, Mexico [CAS]. These differ from *pumilus* in being more slender, averaging smaller (1.4-1.5mm), as well as in the key characters. It is possible that *nigricolor* is not specifically distinct from *bahamicus*.

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